

REMARKS

In paragraph 1 of the Office Action it is indicated that Applicant's prior Request for Reconsideration of the finality of the last rejection has been considered, and the finality of that rejection has been withdrawn. Applicant appreciates the Examiner's consideration and withdrawal of the finality of that Office Action.

In paragraph 2 of the Office Action claims 19-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato (US 6,757,133) in view of Cohen et al. (US 5,995,342), stating:

“Claims 19 and 25, Sato shows a thin film device in Fig. 4 including: at least one thin film layer 21; at least one component 41; the component being formed with an overplated head 36a that includes overhang portions 36a; insulating layer 33 (Column 7, lines 62-65) made of polyimide or a resist material being disposed beneath the overhang portions to fill an area beneath the overhang portions 36a.

Sato does not show 33 is made of hard baked photoresist.

Cohen et al shows a thin film device, and teaches that hard backed photoresist and polyimide are used as alternatives each other for forming a insulating layer (Column 18, lines 31-33). One of ordinary skill in the art would have been motivated to include hard-baked photoresist as an alternative for the polyimide for forming the insulating layer in Sato's device.

Claim 25, Sato further shows the thin film device is inherently used to an hard disk drive (Fig. 1), including at least one hard disk being adapted for rotary motion upon a drive device; at least one slider device having a slider body portion being adapted to fly over the hard disk; a magnetic head being formed on slider body for writing data on the hard disk.

Claims 20 and 26, in the above constructed device, the component 41 is formed into an opening formed in a photoresist layer 33.

Claims 21 and 27, Sato further shows that the device is a thin film magnetic head.

Claims 24 and 30, Sato further shows that the component 41 is an electrical interconnecting stud (Column 6, line 54).

Claims 22 and 28 Sato shows the component 41 is a yoke portion of a magnetic pole (Column 6, lines 57-60).

Claims 23 and 29, Sato further shows in Fig. 4 that the yoke 40 is formed with straight sided pole tip portions 40a and overplated yoke portions 40 and 40b.”

Responsive hereto, Applicant has amended independent claims 19 and 25 to set forth further limitations that are neither taught by nor obvious from the cited prior art. Specifically, Applicant has inserted limitations that define the shape of the photoresist that is disposed beneath the overhang of the component.

Specifically, with reference to Fig. 9 of the application, Applicant's invention includes a component having a central portion that projects generally upwardly from a thin film layer and an overhang having an outer edge. The photoresist is disposed within a volume that can be defined by the thin film layer, the central portion of the component, the overhang, and a surface that is generally perpendicular to the thin film layer and which intersects the outer edge of the overhang. Applicant submits that these limitations with regard to the location of the photoresist beneath the overhang are not taught by nor obvious from the cited prior art.

With particular reference to Sato '133 and Cohen '342, it can be seen that neither reference teaches an overplated component wherein the photoresist is disposed only beneath the overhang; that is, within a surface bounded by the edge of the overhang.

With particular regard to the teachings of Sato '133, Sato shows (as set forth in the Office Action) a thin film layer 21, a component 41 which has an overplated head 36A that includes overhang portions 36A, and wherein an insulating layer 33 is disposed beneath the overhang portions. However, with regard thereto, Applicant has added the additional limitations in which the photoresist location is limited to being disposed only under the overhang portion. This limitation is expressed in terms of a surface that is perpendicular to the thin film layer and which intersects the edge of the overhang portion. As can be seen in Sato, Fig. 4, Sato does not teach such a limited photoresist location, but rather, Sato teaches an extended layer of photoresist 33 which extends well beyond the edges of the overhang.

By way of explanation (though not part of the claim limitations), the location of Applicant's photoresist is limited to being disposed only under the overhang, in that Applicant's fabrication method includes a step of ion milling that removes the photoresist from unprotected areas beyond the overhang, as is depicted in Fig. 8, and described in Applicant's specification.

With regard to the teachings of Cohen '342, it fails to teach the location of photoresist beneath a component overhang. With regard to the combined teachings of Sato and Cohen, neither Sato nor Cohen teach or suggest that the photoresist location be limited by a surface that intersects the outer edge of the overhang, and therefore Applicant urges that the combined teachings of these references cannot and does not render Applicant's invention obvious, as it is now recited in amended independent claims 1 and 25. Applicant therefore respectfully urges that

amended independent claims 1 and 25 now recite subject matter that is neither taught by nor obvious from the cited prior art.


With regard to dependent claims 20-24 and 26, 28-30, Applicant urges that these claims are allowable in that they are dependent claims which depend either directly or indirectly from an allowable base claim, either amended independent claims 19 or 25. With regard to dependent claim 27, Applicant has cancelled this claim in that the limitations thereof were merely cumulative to the limitations set forth in independent claim 25, from which claim 27 depended.

Having responded to all of the paragraphs of the Office Action, and having amended the claims accordingly, Applicant respectfully submits that the Application is now in condition for allowance. Applicant therefore respectfully requests that a Notice of Allowance be forthcoming at the Examiner's earliest opportunity. Should the Examiner have any questions or comments with regard to this amendment, a telephonic conference at the number set forth below is respectfully requested.

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Respectfully submitted,




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Certificate of Mailing (37 CFR 1.8(a))

I hereby certify that this paper (along with any referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to: Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313.

March 21, 2006
(date)



(Signature of Patricia Beilmann)